

TRIGGER DEVICE FOR THYRISTOR

T.2509

TOSHIBA (DISCRETE/OPTO)

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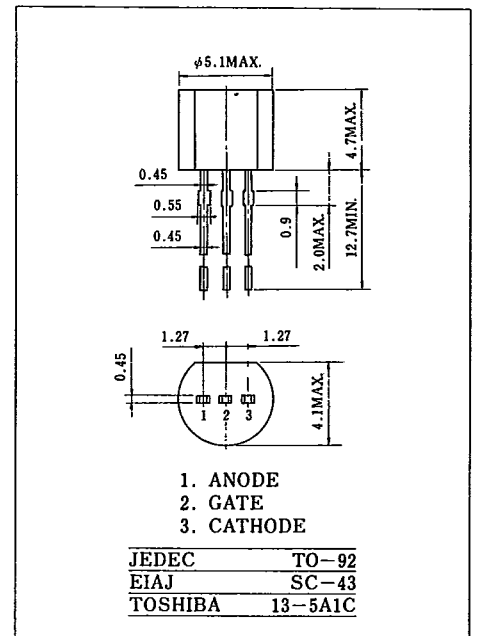
PUT [TN41A, TN41B]

Unit in mm

MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Gate Cathode Forward Voltage	V _{GKF}	40	V
Gate Cathode Reverse Voltage	V _{GKR}	-5	V
Gate Anode Reverse Voltage	V _{GAR}	40	V
Anode Cathode Voltage	V _{AK}	±40	V
DC Anode Current (Note 1)	I _T	150	mA
Repetitive peak anode current	I _{TM}	1	A
		2	
Non-Repetitive Peak Anode Current	I _{TSM}	5	A
Gate Current (Note 1)	I _G	±20	mA
Capacitive Discharge Energy (Note 2)	E	250	μJ
Total Average Power (Note 1)	P	300	mW
Operating Ambient Temperature Range	T _{opr}	-50~100	°C
Junction Temperature	T _j	-50~125	°C
Storage Temperature Range	T _{stg}	-50~125	°C
Weight		0.2	g

Notes: 1. Derate Current and Power 1%/°C above 25°C
 2. E = 1/2 · C · V² Capacitor Discharge Energy with no Current Limiting Resistance, Non-repetitive.



ELECTRIC AL CHARACTERISTICS

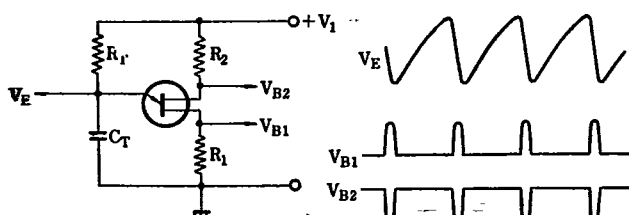
CHARACTERISTIC	SYMBOL	Fig. No.	TN41A			TN41B			UNIT
			MIN	TYP	MAX	MIN	TYP	MAX	
Peak Current (V _S =10V)	R _G =1MΩ	1 · 2 · 3	-	0.1	2	-	0.04	0.15	μA
	R _G =10kΩ		-	1.2	5	-	0.5	0.1	
Offset Voltage (V _S =10V)	R _G =1MΩ	1 · 2 · 3	0.2	0.4	1.6	0.2	0.4	0.6	V
	R _G =10kΩ		0.2	0.45	0.6	0.2	0.45	0.6	
Valley Current (V _S =10V)	R _G =1MΩ	1 · 2 · 3	-	15	50	-	10	25	μA
	R _G =10kΩ		70	250	-	25	200	-	
Gate to Anode Leakage Current (V _S =40V)	I _{GAO}	4	-	0.03	10	-	0.03	10	nA
Gate to Cathode Leakage Current (V _S =40V, A-C Short)	I _{GKS}	5	-	0.3	100	-	0.3	100	nA
Forward Voltage (I _F =50mA)	V _F		-	1	1.5	-	1	1.5	V
Pulse Output Voltage (V=20V, C=0.2μF)	V _O	6 · 7	6	10	-	6	10	-	V
Rate of Rise of Pulse Output Voltage (V=20V, C=0.2μF)	t _r	6 · 7	-	50	80	-	50	80	ns

UJT [2SH13, 2SH14, 2SH20, 2SH21]

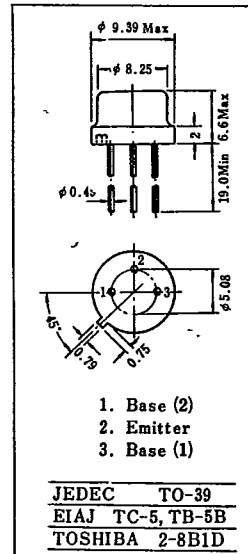
MAXIMUM RATING

CHARACTERISTIC	SYMBOL	RATING		UNIT
		2SH13, 2SH14	2SH20, 2SH21	
Voltage across bases 2 and 1	V _{B2B1O}	55	55	V
Voltage across base 1 and emitter	V _{B1EO}	60	60	V
Voltage across base 2 and emitter	V _{B2EO}	60	60	V
Peak emitter current	I _{E (peak)}	2	1	A
Emitter current	I _E	50	50	mA
Allowable loss	P	450	250	mW
Junction temperature	T _j	150	150	°C
Storage temperature	T _{stg}	-65~150	-65~175	°C

Basic Oscillation Circuit



2SH13, 2SH14 Unit in mm



2SH20, 2SH21 Unit in mm

